

cele which he has devised. It consists in scarification of the tunica vaginalis. The important points in the operation are strict antiseptis and careful checking of all hæmorrhage before suturing. In a case with a favorable course there is no trace of inflammation, swelling, or pain after operation. Generally, in about a week, the margin of the incision heals by first intention, when all sutures may be removed. But, if antiseptic precautions are not rigidly carried out, or the hæmorrhage is not checked, there will be swelling, pain, and rise of temperature. In such case remove a few sutures, and introduce a probe, to give vent to the accumulated pus and blood. Apply antiseptic gauze, and advise rest in bed. Thus treated the case will soon recover, while the inflammatory symptoms will abate. The suture materials are also important points in the method. He used silk or catgut for the tunica vaginalis, and silk for the skin. If the cutaneous wound be stitched too far from the margin of the wound the elasticity of the scrotal skin will cause it to roll in, bring the two surfaces into contact, and possibly induce separation. During the last year he has operated on twelve cases thus.—*The Sei I-Kwai Medical Journal*, No. 9, 1893.

FRANK H. PRITCHARD (Norwalk, Ohio).

#### BONES—JOINTS—ORTHOPÆDIC.

**I. Two Cases of Periostitis Albuminosa.** By Dr. W. SCHRANK (Wiesbaden). The author reports two cases of this disease, both affecting the tibiæ of boys. The clinical history in each case was that of subacute osteomyelitis, but without fever. Incision of the tumors showed the presence of a quantity of reddish-yellow serous fluid, containing flocculi of fibrin and a few pus-corpuscles. The periosteum was partly destroyed and the bone affected with caries of a mild type. In one case the process had evidently been engrafted upon an old osteomyelitis, as a small sequestrum was found in the vicinity surrounded by a little thick pus.

Bacteriological examination showed the presence of staphylococcus albus in both specimens. Streptococci were also present in

the exudate from the case complicated with osteomyelitis. Inoculation of animals showed the virulence of the organisms to be much attenuated.

Periostitis aluminosa usually affects young men, frequently without any known cause. The process begins by preference near the epiphysis of one of the long bones. Swelling and localized pain are constant symptoms. The temperature is never very high, and is frequently wanting. The contents of the tumors are a serous fluid, often containing fat and mucus. The walls of the cavity are composed of granulation-tissue undergoing fatty degeneration. Fat found in the exudate comes from the walls of the cavity, and not from the marrow of the bone, as was formerly supposed.

The periosteum is partly destroyed in most cases, and the bone is slightly carious. In a few instances the periosteum has been found intact and forming the bottom of the cavity.

The staphylococcus albus has been found in nearly all cases in which bacteriological examinations were made.

There are two theories about the formation of the serous exudate in these cases. Vollert claims that it is pus which has undergone mucoid metamorphosis. The author agrees with Schlange in considering the process a modification of an ordinary suppurative inflammation due to attenuation of the bacteria or resistance of the tissue. This view is supported by the fact that the white staphylococcus, which is thought to be only a weak variety of the yellow, is usually the only germ present. In the case complicated with an old osteomyelitis the disease is supposed to be due to attenuated germs from the old inflammation. Transition forms are sometimes seen in which the exudate has a composition between ordinary pus and a serous exudate.

The author believes periostitis aluminosa is not a good name, as the process is only a modification of an ordinary inflammation, and suggests that the lesion be called "osteomyelitis serosa" or "sero-mucosa."—*Archiv für klinische Chirurgie*, Bd. XLVI, No. 31.

**II. Diseases of the Bones in Typhoid Fever.** By Dr. PAUL KLEMM (Berlin). According to Dopfer 79 per cent. of patients dying of typhoid fever have complications of some kind. Bone lesions are among the rarer complications, although osteomyelitis is not infrequently seen. A non-purulent bone lesion occurring in typhoid has only recently been studied and described. Cases are not very numerous, but enough have been observed to give a fairly clear clinical picture of the disease.

At some time after an attack of typhoid, usually in the second or third week of convalescence, the patient complains of severe pain originating from some bone, usually in the lower extremity. Swelling gradually appears, and reaches a size about equal to the flat of the hand, and two centimetres in thickness. The skin is frequently red and warm. The tumor is usually doughy and elastic, but may become semifluctuating.

Pain and fever are constant symptoms. The pain at first is rheumatic in character, but later it becomes more localized and more severe, and is described as "tearing" or "boring." It is usually more severe at night and when the foot hangs down. The pain diminishes when the exudate is absorbed. The fever is usually of the hectic type,—higher evenings, lower mornings,—and rarely reaches 39° C. Frequently there are alternating chills and fever. If the fever continues a long time the patient becomes emaciated and the symptoms resemble tuberculosis.

The disease may terminate in one of three ways.

(1) Absorption takes place. This is the most frequent mode of termination. In most cases a periostosis remains behind for some weeks.

(2) Cheesy degeneration of the tumor takes place. The course of the disease is the same as in the previous case, but the tumor does not show any tendency towards absorption, and the temperature remains high. If the tumor is not opened and curetted it will open spontaneously and discharge necrotic tissue or pus if it becomes infected. These tumors are composed of granulation tissue, and have

much resemblance to syphilitic or tubercular lesions. The bacillus of typhoid is found in almost all of them.

(3) The process can terminate by liquefaction of the contents of the tumor. The fluid is of a reddish color, devoid of odor, almost transparent, and poor in cellular elements. The process is usually confined to the surface of the bone, but may involve deeper parts, leading to the formation of sequestra.

These tumors always contain the typhoid bacillus and no other organisms. The bacilli are undoubtedly filtered out of the blood by the bones, and are lodged in a suitable place for proliferation. The lesion produced frequently becomes infected with pyogenic organisms, and the typhoid bacilli disappear. A number of cases are on record in which both the pus-cocci and the typhoid bacilli were present in the same lesion.

Secondary infection probably comes from the environment. An instance is cited in which typhoid patients were put in a room previously used for septicæmia and erysipelas. Seven out of nine of these cases developed some suppurative lesion.

In order to determine the effects of typhoid bacilli on rabbits, the author injected a pure culture into their veins, with the following result:

(1) In all cases a primary intoxication was present, from which some died.

(2) In some the bacilli were found in the marrow of the bones, where they had increased in number.

(3) In some cases the bacilli had disappeared.

(4) Pus was found in no case.

(5) The marrow was found to be soft and of a brownish-red color.

Other rabbits were inoculated with typhoid bacilli, and after a few days given an intravenous injection of staphylococci. Four out of eleven thus treated developed osteomyelitis, although numerous experiments show that adult rabbits with uninjured bones never develop inflammation of the bones from injections of pyogenic organisms.

From the experiments the author deducts the following conclusions: Typhoid bacilli circulating in the blood are filtered out by the bones; here they may die and produce no trouble, or they may proliferate and produce one of the above-mentioned lesions, or they can form a *locus minoris resistentiæ*, which allows of secondary infection with pyogenic organisms.

The specific typhoid bone lesions are summed up as follows:

- (1) Cortical osteomyelitis with tendency to absorption.
- (2) Cortical osteomyelitis with tendency to cheesy degeneration.
- (3) Cortical osteomyelitis terminating in liquefaction.
- (4) Osteomyelitis terminating in the formation of sequestra.

These lesions should not be confounded with suppurative osteomyelitis due to a mixed infection.

The author proposes calling the above lesions "*osteomyelitis typhosa non-purulenta*."—*Archiv für klinische Chirurgie*, Bd. XLVI, No. 41.

**III. Traumatic Lateral Luxation of the Head of the Radius.** By Dr. P. SCHRÖTTER (Pabianice). Dislocation of the head of the radius occurs usually before the age of twenty. Of the three forms, anterior, posterior, and external, the latter is by far the less frequent, and when it does occur, it is frequently complicated with fracture of the ulna, or fracture of the head of the radius. It can be produced either by forced pronation with adduction or forced supination with abduction. A case of the author's had this luxation produced by being lifted by the pronated forearms and shaken from side to side.

This luxation with fracture of the ulna is produced by direct violence, or the ulna is fractured by direct violence and the radius dislocated by an indirect force. Attempts at fracturing the ulna by indirect violence after the head of the radius was dislocated have always resulted in fracturing the radius.

A fracture at the head of the radius and this lesion are produced by indirect violence. The capitellum of the humerus is more apt to

split off a piece of the head of the radius when the arm is pronated and extended,—*e.g.*, falls on the pronated hand.

The prognosis of lateral luxations is not favorable. Reduction is frequently hindered by interposition of the capsule, and in old luxations it is exceedingly difficult or impossible. Retention in position is uncommonly difficult, due to the shape of the joint surfaces, and if the ulna is fractured the difficulty is even greater. If the dislocation remain unreduced the amount of motion obtainable is very limited, much more so than in either of the other dislocations; and in addition there are usually symptoms due to pressure on the muscular branch of the musculo-spiral nerve.

Reduction can be accomplished by semiflexion, adduction, and pressure on the head of the radius; or by hyperextension, supination, and adduction. A plaster bandage should be applied for two weeks, after which passive motion can be commenced. In cases complicated with a fracture of the ulna it is sometimes necessary to apply continuous weight extension.

In unreduced dislocations with a limited amount of motion, an early operation should be performed. Arthrotomy with replacement of the head of the bone should be done in suitable cases. The capsule can be sewed so as to hold the bone in position. Bardenheuer advises fastening the head of the radius to the capitellum by means of a silver wire suture which he leaves in place fourteen days.

Resection of the head of the radius gives excellent results, and is the operation that has to be done in most cases. Ten out of eleven cases, tabulated by the author, show good results in both strength and function of this joint.

The method generally employed is Heuter's longitudinal incision over the head of the radius. Réverdin adds a transverse incision across the muscles of the epicondyle, running above the nerve.—*Archiv für klinische Chirurgie*, Bd. XLVI, No. 48.

**IV. Ischias Scoliotica.** By W. SACHS (Mülhausen). Since its first introduction into medical literature, ischias scoliotica (Kocher)

has attracted attention from numerous authors, without any harmonious opinion on the subject being reached. They agree that a certain complex of symptoms exist in which ischias—*i.e.*, sciatica—is combined with scoliosis or kyphoscoliosis.

The author reports a case. A man, forty-nine years old, who for the past ten years has had repeated attacks of sciatica, a few months ago received a slight injury in the left gluteal region, which was followed by an attack of sciatica on that side with evident involvement of the nerves of the lumbar plexus. Several weeks after the attack the patient assumed the following position upon standing: Weight of body borne on the right leg; left leg rotated out, flexed at the hip and knee, advanced and rested on the toe. In the lumbodorsal region there was a marked scoliosis with its convexity towards the left. The left lumbar-muscles were prominent and hard. The under side of the right thorax was near the crest of the ileum. In the dorsal region there was a slight compensatory right scoliosis. Movements of the back, either towards the normal position or designed to increase the abnormal position, were followed by pain.

The existence of this condition—*i.e.*, scoliosis on the affected side—is due to the extension of the neuralgia from the sacral nerves to those which supply the lumbar muscles. The muscles become painful when motion is attempted. The result is that they are held quiet in a moderate degree of contraction. The muscles of the opposite side not being sufficiently opposed, draw the body over. The scoliosis at first is incomplete, as the muscles of the back are accustomed to act in unison, and any attempt at relaxing the muscles of one side and keeping those of the other side in action is at first only partly successful and accompanied with pain, but after a varying length of time attempts in this direction succeed without a consciousness of effort on the part of the patient.

The contraction of the lumbar muscles, especially the sacrolumbalis and the quadratus lumborum, will account for the scoliosis, but the kyphosis is probably brought about by the weight of the body. Lying on the back in bed is a predisposing cause. When scoliosis is

once produced, the weight of the body tends to increase it. Simple scoliosis beyond a certain degree is prevented by the articular processes of the vertebræ. A slight increase can be brought about by rotation of the vertebræ and the production of kyphosis.

The position of the leg is determined by the painful condition of the psoas magnus. The thigh is held semiflexed and rotated outward, a position which best relaxes that muscle.

The cause of this peculiar neuralgia is usually a traumatism.

The treatment is the usual sciatic treatment: Salicylic acid, electricity, baths, and massage; followed by treatment of the scoliosis by suspension and exercises calculated to straighten the vertebral column. —*Archiv für klinische Chirurgie*, Bd. XLVI, No. 36.

GEORGE R. WHITE (New York).

**V. The Treatment of Ankylosis of the Elbow.** By Dr. G. NOVÉ-JOSSERAND (Lyons). Cases of true bony fusion of the bones at the elbow very frequently fail to be relieved by partial resections, and can only be cured by total and extensive removals of bone. When the joint is fixed by a simple osteophytic band at some point on the periphery of the articulation the breaking or removal of this new-formed substance may suffice to restore the usefulness and range of the joint. When, however, there are numerous extraperiosteal ossific deposits, extending into the intramuscular spaces and along the tendinous insertions, the careful ablation of all these osteophytes is called for. On account of the marked tendency of the tissues in the neighborhood of the bones to make bone, it is necessary in these cases to take away a certain amount of the substance of the bony column itself, and to observe the technique of interrupted subperiosteal resection. If the extremities of the bones are joined together, either by dense fibrous tissue or by bone, it is necessary in order to have a movable articulation to produce a decided interval between the cut surfaces, and resection alone can accomplish this. The dictum of Ollier is quoted that it is not possible to obtain a movable articulation by a simple bone section when the divided

surfaces remain in apposition, especially after a curved or semicircular section. Total resections, quite extensive, of the elbow give in young subjects elbows of nearly normal shape. The power also of the limb is not much more hazarded by a well-devised total resection than by a semiarticular resection. In young subjects reparative activity is so great that secondary ankylosis can be prevented only by removing a considerable amount of bone, perhaps four centimetres in length, in cases of rectilinear ankylosis; in cases a little flexed a piece three centimetres in front and from four to five centimetres behind should be removed. In adults, however, a much more restricted removal of bone is to be made. By taking away more or less bone we may in some sort manage so as to have as a result much mobility with less strength, or great solidity with restricted mobility. In old cases, in which the muscles about the joint have become degenerated and atrophied, less extensive resections must be made if a firm limb is desired.

The author describes the operative method of Ollier in resections of the elbow. As a first step care is taken to re-establish the articular dividing line by the bistoury and cutting-forceps in cases of fibrous adhesions; by the chisel and mallet when the bones are completely fused. It is very important to preserve the lateral ligaments and the attachments of the periosteal-capsular sheaths of tendons. Especially is it desirable for the prevention of recurrence of the ankylosis to excise a girdle, from one to two centimetres in width, of periosteum entirely around the articulation. This procedure constitutes the "interrupted subperiosteal resection" of Ollier.

The after-treatment is of great importance. Early mobilization is necessary. It should be begun between the eighth and tenth days. At first the attempts at mobilization should be short and at long intervals, taking care not to excite pain. If movements are persisted in which cause pain, inflammatory reaction will be excited in the new joint, which will determine ankylosis. In the intervals between the attempts at mobilization the limb should rest upon a splint. A little later the splint may be kept applied only at night, while during

the day the patient is encouraged to move his joint himself, at first passively with his sound hand, then actively. Gradually the extent of the movements is increased. If, as the result of too violent or prolonged exercise, a subacute arthritis should be excited, all mobilization should be suspended, and abundant douching with complete rest enjoined until the tenderness has completely subsided. Finally, at the end of one or two months, when the limb is already solid and the joint quite painless, the splint is permanently suppressed, and the result is perfected by massage and faradization of the muscles, and by causing the patient to carry light weights so as to increase muscular power. Later, if any tendency on the part of the joint to stiffen shows itself, elastic traction should be made use of until motion to a full physiological range is obtained.

In the more complicated cases, with diffuse ossification and much atrophied muscles, to these systematic mobilizations should be added continuous extension, chiefly at night, by which the articular surfaces are kept separated from each other and the formation of an articular space is favored. This may usually be accomplished by very simple apparatus,—the forearm being held in semiflexion by a rubber band, which tends to flex it, there may be fixed to its upper part near the elbow a little leather collar from which a weight of from 300 to 800 grammes is suspended. The patient can thus move the joint without interfering with the traction. He can also get up and walk about without inconvenience. Should this apparatus not be sufficient, extension can be applied to the extended forearm by a sticking-plaster traction apparatus while the patient is in bed. The two methods can be combined, the one being in use during the day, the other at night.

The exact application of the rules thus outlined will enable a surgeon to undertake with success the relief of cases of ankylosis which have recurred again and again after operations for their cure which have been less radical or less carefully managed in their after-treatment. Such secondary operations should be deferred for four or five months at least,—that is to say, until the tissues about the

affected part have become restored to a healthy state. These repeated resections, when they are properly done, do not bring any risk to the ultimate strength of the limb.—*Revue de Chirurgie*, December, 1893.

**VI. Acupuncture in Delayed Union of Fractures.** By Professor NICOLAYSEN (Christiania). The writer read a paper at the first Congress of Scandinavian Surgeons, held at Gothenburg, July 6–8, on the aetiology and treatment of delayed union after fracture. He claims that he has obtained the best results with acupuncture. If union be long in forming, he introduces sewing-needles, 4 to 5 centimetres in length, between the ends of the bones, and lets them remain there from a half to one hour. They are then removed, and an antiseptic bandage and splints applied. It may be repeated if there be no distinct callus formation after two to three weeks. Professor Studsgaard, of Copenhagen, states that treatment must necessarily vary in different cases. In case there was atrophy of the ends of the bones, acupuncture would not be indicated. He has been obliged to do amputation of the femur in two cases. Still he performs resection or employs ivory pegs or steel nails. Professor Berg, of Stockholm, has used injections of the chloride of zinc with success. Professor Plum, of Copenhagen, in true pseudoarthroses, always resects. In protracted healing, he advises patience, the circular bandage above the place of fracture, and massage. In children with fracture of the bones of the leg the prognosis is unfavorable. Tscherning advises the early use of the extremity.—*Norsk Magazin for Lægevidenskaben*, No. 9, 1893.

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#### GYNÆCOLOGICAL.

**I. A New Method of Aiding in the Atrophy of Uterine Myoma without Removal.** By F. B. ROBINSON (Chicago). This new method of operating for uterine myoma consists: (1) In ligating the ovarian artery with or without tubal and ovarian removal; (2) in ligating the uterine artery which courses along the sides of the